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BULLETIN OF
THE GEORGIA ACADEMY OF SCIENCE

Volume III DECEMBER, 1945 Number 2

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MESSAGE FROM THE PRESIDENT

Now that the fighting has ceased all Georgians should loyally unite in participating in constructive programs to advance our state. In every institution or municipality there has been most comprehensive post-war planning, and members of the Georgia Academy of Science should now take the lead in both the necessary research as well as the execution.

The present prospects for the advancement of science, and so the material and cultural wealth of Georgia, are brighter than ever before. Looking back over the years we can see how far we have gone in this direction. Following the first decade of this century when Georgia was the Empire State of the South there occurred a gradual decline in agriculture, a shifting of population and a slight increase in industry. During this period relative statistics have been entirely against us, and the bottom rungs of the ladder have been Georgia's lot in most fields of endeavor. This trend, or rather static position, has been most depressing, especially to young scientists coming from active research institutions. The positive stimulation of attack, the atmosphere of creation, all too often was shed like a cloak, and with some squirming they settled down to intellectual stagnancy. On the other hand individuals here and there have continued productive in spite of low salaries, large classes and poor equipment.

It does not seem optimistic to state very definitely that Georgia is now experiencing a renaissance in agriculture, industry and education. We are gradually changing from an agricultural to an industrial civilization. Committees are hard at work in every hamlet seeking new means of developing our resources. Sectional inequalities are being abolished. Farm mechanization is proceeding rapidly. The tractor drawn chopper, the flame weeder, and

the cotton picker are already here. In view of this trend the small subsistence farms, that have dotted the Georgia landscape, will have their occupants forced into industry. Larger farm units and greater industrialization will result in more products and so more funds for education and research.

The clouds are definitely breaking. Whether due to the advent of the atomic bomb, or to just the aggregate of results of scientific research in winning the war, there is a greater general interest in science now than ever before. Research has become a magic word. In the University System it has become a definite part of the recognized activities of the teacher. In the past research funds have given only to centers organized for that purpose alone. This year the state has made substantial grants for organized research within teaching units. This, along with increased salaries, should add greatly to the morale of the scientists. It will also permit us to develop graduate schools that some day may be comparable to those in more favored states. Private schools of Georgia, as well as industrial concerns, are also experiencing this leaven. The future of the scientists of Georgia is brighter than ever before.

Julian H. Miller.

OFFICE OF THE SECRETARY

Communications with this office suggest increasing interest and activity in scientific work and in the Academy. Responses to requests for material for this Bulletin have been more prompt and more generous than usual. Let us continue our effort to make the Bulletin of greater value by publishing information on current work in science in the State. The Academy can render an important service by keeping its members and other interested parties acquainted with scientific research and progress in Georgia and might come to make more valuable contribution by means of more frequent publications if sufficient material is furnished to this office.

It may now be the time to complete the establishment of the Junior Academy. The Constitution has been in readiness since 1941 when it was approved and then, on account of the war, it was voted to postpone further efforts for the duration.

A meeting of the Academy in the Spring of 1946 must soon be considered. War conditions have made it very difficult or impossible for some institutions to invite the Academy to meet with them during this college year. It is hoped that a meeting next Spring can be arranged and the executive council will be happy to receive invitations for this meeting.

The addressograph has been completed and is now in operation. The Library of The University of Georgia has assumed half the cost of making the addressograph and the Academy the other half.

New members, elected since the last issue of the Bulletin, are as follows: Dr. Clyde E. Keeler, Biology Department, Wesleyan, Macon; Dr. W. F. Hamilton, University of Georgia Medical School; and Dr. Howard M. Phil-

lips, Biology Department, Emory University.

The Treasurer is able to announce that funds of the Academy available to members for research are now $140.00. Members may make application for part or all of this amount. Applications should be addressed to the Secretary and contain all information that will be required by the committee in judging the merit of the application. No blanks are necessary.

A. S. E.

INHERITANCE OF LENGTH OF FIBER IN AMERICAN UPLAND COTTON

By Calvin Clyde Murray

The purpose of this investigation was to investigate further the inheritance of length of lint in American Upland (Gossypium hirsutum) cotton. Six homozygous lines, representing extremes in length of lint, were crossed reciprocally, in pairs, each involving a long and a short linted strain.

The parental lines, their designation in the crosses, and mean halo-length of lint expressed in one-sixteenths of an inch for the period 1942 to 1944, are as follows:

Half and Half (A)	21.15+ or — .12
Wilds (B)	37.59+ or — .16
Half and Half (another strain) (C)	22.00+ or — .18
Wilds (another strain) (D)	39.34+ or — .19
Ambassador (E)	25.16+ or — .13
Meade (F)	39.47+ or — .14

The three sets of intraseries crosses were made up of A x B, C x D, and E x F, while the interseries constituted all other possible combinations of the six lines.

The populations studied were composed of the parental types, F_1s and reciprocals, F_2s and reciprocals, and four backcrosses each to the long and short linted parents. The F_2 progenies were grown from the three sets of intraseries crosses. The data from each group of crosses were tabulated and the halo-length frequencies arrayed into classes having an interval of two-sixteenths of an inch.

The individual plants were classified by combing the fiber of one of the middle two seeds of one lock of one boll from each plant. The halo-length of lint was measured by an apparatus which eliminated the variable of size of seed from functioning in lint length. Data were obtained on the method of sampling and classifying the plants, which show that the techniques which were used give a good representative sample of an individual plant. All of the bolls from which lint length measurements were made were taken during a period of anthesis of approximately ten days. Only self pollinated material was used.

A total of 20,914 plants was used in this work. Sufficiently large backcross and F_2 generations were grown to give a good proportionate recovery of parental types.

The conclusions which may be drawn from this investigation are summarized as follows:

1. **The degree of dominance, as expressed between crosses of inbred lines of Upland cotton, varies from below to approximately equal that of intermediacy. This, when compared to the results of other investigators, who for the most part have worked with interspecific material suggests that dominance is expressed to a lesser degree in intraspecific than in interspecific crosses.**

2. It has been shown that heterosis was not a measurable factor in the expression of lint length in this investigation.
3. The direct and reciprocal crosses indicate differences of little to no significance.
4. Data from the intraseries and interseries crosses, representing all possible combinations between the six inbred lines, indicate that the two strains of Half and Half have the same factors for lint length while Ambassador may have an extra minor gene for this character. The three long linted parental types, consisting of two lines of Wilds and one of Meade, appear to have the same primary genes for length of lint.
5. Curves of the fiber length arrays of the F_2 generations are fairly smooth, unimodal, and exhibit slight negative skewness which indicates the presence of several genes and some factorial interaction.
6. The nature of the curves of the backcrosses and F_2 generations, as well as the features of the F_2 cultures, are such that no recognizable phenotypic rations are suggested.
7. It appears that there are four or possibly five genes involved in the expression of lint length. Of these, three may be two or three which have major and overlapping effects accompanied by two or three independent modifiers.
8. The smoothness of the F_2 generation curves and the absence of any marked skewness indicates that the major lint length factors are approximately equal in their effect. However, the tendency toward negative skewness suggests that some of the lint length genes may interact in a cumulative manner.

The Georgia Geological Survey has engaged in numerous research problems within the last year and A. S. Furcron, Assistant State Geologist, has had an opportunity of doing considerable research upon several problems of Georgia geology. A considerable part of this work was done in cooperation with the Tennessee Valley Authority, and the Survey has also cooperated with other federal agencies.

TALC DEPOSITS OF MURRAY COUNTY, GEORGIA

By A. S. Furcron and
Kefton H. Teague

(Abstract of work in progress)

The writers have begun a detailed investigation of the talc deposits of Fort and Cohutta mountains in Murray County, Georgia. In order that this investigation may be entirely adequate it is necessary to work out the geologic features of these mountains in detail. A report is being prepared uopn the geology, structure and statigraphy of the mountain areas, and the mineralogy and structure of the talc deposits. Detailed mine maps have been prepared.

These mountains occur near the southern end of the Great Smoky chain and have been thrust westward over later Paleozoic rocks along the Cartersville overthrust. The writers have discovered a second great thrust fault east of the Cartersville thrust which brings up into the mountain area the fundamental Pre-Cambrian basement rock, a very coarse-grained granite gneiss. It is in this gneiss that the talc deposits occur. These deposits occur in a formation up to 100 feet or more in thickness which consists of talc, serpentine, chlorite, dolomite, etc.

During the recent war the talc deposits of this area were of very strategic importance. A large amount of the talc is ground near Chatsworth and sold into the roof-

ing and rubber trade. The better grades of talc are cut into crayons which are used by steel workers. Talc also comprises about 90 per cent of DDT dusting powder.

GEOLOGY OF THE SOUTHERN END OF THE BLUE RIDGE IN GEORGIA

By A. S. Furcron and Kefton H. Teague

The writers have submitted recently an abstract of the abovementioned paper to the Geological Society of America. This paper is to be presented during the annual meeting of the Society at Pittsburgh December 27-29, 1945. The paper discusses the structure, geology and mineral resources of the southern end of the Blue Ridge area. The Pre-Cambrian formations of this area are classified into three principal mappable units, which are overlain unconformably by basal Cambrian arkoses and slates. The mica deposits of this area have been discussed previously by the writers in Bulletin 48 of the Georgia Geological Survey.

THE IDENTIFICATION OF SOME CINCHONA ALKALOIDS

By W. T. Sumerford *

Introduction

The use of a combination of the cinchona alkaloids (Totaquina) in the treatment of malaria, and the employment of the individual alkaloids of cinchona for various other purposes requires methods for distinguishing among these closely related vegetable bases, of which the principal ones, arranged alphabetically, are: 1) cinchonidine, 2) cinchonine, 3) quanidine, and 4) quinine. It is stated in Merck's Index (1) that cinchonine, quinidine and quinine are precipitated by picric acid, but a reference to the behavior of cinchonidine with picric acid is omitted. In general, picric acid appears not to have been used for the identification of these alkaloids, probably because of its lack of specificity. However, picric acid can be used to distinguish among cinchonidine, cinchonine, quinidine and quinine with the use of glacial acetic acid as the reaction medium and the employment of the proper dilutions of the reactants.

As complementary tests, cinchonidine sulfate can be distinguished from cinchonine sulfate by the use of an aqueous solution of sodium benzoate, and quinidine sulfate can be distinguished from quinine sulfate by the difference of their respective solubility in a concentrated solution of chloral hydrate in water or in alcohol.

Experimental

Cinchonidine, Cinchonine, Quinidine and Quinine.—Treat 1 cc. each of a 1-100 (approximately, 0.03 M.) solution of cinchanidine, cinchonine, quinidine and quinine in glacial acetic acid, contained in separate and consecutively numbered test tubes, with 1 cc. of a 1-70 (approximately 0.06 M.) solution of picric acid in the same solvent. (It should be recorded here that a solution of picric acid in glacial acetic acid is colorless or practically so.) Shake the tubes and then allow them to remain

* Dean, School of Pharmacy, University of Georgia.

undisturbed for five minutes during which period only the cinchonidine is precipitated. Scratch the inside of the three remaining tubes with a glass rod. This causes the cinchonine to precipitate immediately. The two remaining tubes are allowed to remain undisturbed for one hour, at the end of which time the quinine is precipitated while no change is observed in the tube containing the quinidine. The cinchonoidine picrate crystals obtained in this way are long, thin paralleograms and the cinchonine picrate crystals are small and distinct rhomboidal plates. These crystalline forms of the picrates of cinchonidine and cinchonine agree closely with those obtained by Nelson and Leonard (2) when these picrates were recrystallized from 95% ethyl alcohol. The quinine picrate crystals were thin parallelograms about half as long as the cinchonidine picrate crystals.

Cinchonidine Sulfate and Cinchonine Sulfate.—To 1 cc. of a 1-100 aqueous solution of cinchonidine sulfate and cinchonine sulfate, contained in separate test tubes, add 1 cc. of a 1-100 aqueous solution of sodium benzoate. A precipitate is obtained almost immediately with the cinchonidine sulfate while no visible change occurs in the tube containing the cinchonine sulfate solution. The precipitate obtained with cinchonidine is crystalline, non-volatile and has a bitter taste. Quinidine sulfate and quinine bisulfate, in 1-100 aqueous solution, are not precipitated after several hours by the sodium benzoate solution. It has been reported that the sulfates of cinchonidine, cinchonine, quinidine and quinine are precipitated by sodium benzoate solution, but the precipitates redissolve on the addition of a small amount of water (3).

Quinidine Sulfate and Quinine Sulfate.—To 0.1 Gm. of quinidine sulfate and quinine sulfate, contained in separate test tubes, add 1 Gm. of an 80% w/w aqueous solution in chloral hydrate. The quinidine sulfate dissolves almost at once while the quinine sulfate does not dissolve completely for several hours. An 80% w/w alcoholic solution of chloral hydrate can be used equally as well in this test. This is in agreement with the fact that quinidine sulfate is generally more soluble in organic solvents than is quinine sulfate. It should be pointed out, however, that with an 80% w/w alcoholic solution of chloral hydrate, the solubility of the free alkaloids is in reverse to that of the sulfate salts; 0.1 Gm. of quinine dissolving quickly in 1 Gm. of the solvent, and the quinidine showing relatively little solubility. According to a German patent (4) quinine forms an addition compound with chloral hydrate.

(1) "Merck's Index." Fourth edition. Merck and Co., Inc., Rahway, N. J. 1930. pp. 560-2.
(2) Nelson and Leonard. *J. Am. Chem. Soc.*, *44*, 369(1922).
(3) Lyons. *Pharm. Rev.*, 22, 365(1904).
(4) German patent 590, 312, through *Chemical Abstracts*, 38, 2127 (1934).

THE EFFECT OF COAT-CHARACTER VARIATIONS ON MORPHOLOGY, PHYSIOLOGY AND BEHAVIOR IN THE NORWAY RAT

By Clyde E. Keeler

Department of Biology, Georgia State College for Women, Milledgeville

Recent analyses have led to the conclusion that coat color genes may be considered as colorimetric or morphometric surface indicators of myriads of altered physiological processes that are going on continuously within all parts of the organism.

That is, the developmental pattern of the coat-character-mutant organism is modified throughout, producing organs of slightly different size or quality as compared with the Gray Norway Standards, and the resultant, modified physiology of these organs, with their interactions and counteractions, integrate the whole organism in a unique fashion for each gene examined.

Favorite foci of alteration are general body size (bone lengths), tail, testes, femora, olfactory bulbs, and nasal bones. Coat character genes may also affect general brain weight, rate of natural water loss in bones and brain, possibly size and shape of Foramen magnum, general activity, wildness and tameness, basal metabolism, heart rate, voice components. general body weight, propensity for chewing wood, rate of food intake, choice of diet, and muscle tonus. Some of the anatomical modifications are sex-limited including short tails in Cinnamon and Curly females, short nasal bones in Cinnamon males, small olfactory bulbs in Cinnamon males, small testes in in Cinnamon and Curly males, and short femora in Curly males.

We can no longer look upon the study of coat colors in mammals as a genetic goal in itself, as was done for so many years, but rather as a means of getting at variations in the whole realm of physiology for investigation. Thus, a particular mutant coat color, for example, is a tag or label affixed to the outside of the individual animal that may tell the morphologist, the physiologist, and the behaviorist exactly what to look for on the inside of the package.

Some of the evidence for these conclusions has been published in the articles listed below, and the remainder will be published in the future.

LITERATURE

Keeler, C. E. and H. D. King. Multiple effects of coat color genes in the rat, with special reference to the "marks of domestication." Anat. Rec., 1941-42, 81:48-49. Jour. Exper. Psychol. 34: 241-250.

Keeler, C. E. The association of the black (non-agouti) gene with behavior. Jour. Hered. 1942, 33: 31-38.

Keeler, C. E. Gene determined physical modifications affecting the sociometry of rats. Sociometry, 1945, 8: 30-41.

Schopbach, R. R., C. E. Keeler and H. A. Greenberg. Some variations in basal metabolic levels of rats. Growth, 1943, 7: 83-95.

Keeler, C. E. Note on osseo-desiccation and behavior. Sociometry. (in press).

A combination colloquim in psychology, neurology, psychiatry, and related fields is meeting monthly (usually on the last Thursday at 7:30 P. M.) in the psychology laboratory at Emory. The gatherings so far have as-

sembled not only the interested faculty members and advanced students of the local colleges and universities, but also a considerable group of psychologists, neuropsychiatrists and others from welfare agencies and from the governmental and military personnel stationed in and around Atlanta. Attendance has ranged from 18 to 25. The leaders and topics presented this year follow in order of appearance:

Capt. C. L. Yeager, Neuropsychiatrist, Lawson General Hospital, *Electroencephalography.*

Capt. R. M. Hughes, Chief Psychologist, Lawson General Hospital, *Psychological Aspects of the Rehabilitation of Amputees.*

Dr. J. E. Moore, Psychologist and Director of the Veterans Administration Guidance Center, Georgia School of Technology, *Psychological Problems in a Veterans Guidance Center.*

Dr. H. R. Lipton, Psychiatrist, U. S. Public Health Service, Federal Penitentiary, *Narcohypnosis and Therapy.*

Dr. W. E. Hinrichs, Psychologist, Personnel Advisory Service, and the University of Georgia Evening College, Atlanta. *A Modified Rorschach Technique in Business and Industrial Personnel Selection.*

Lt. S. Q. Janus, Psychologist, Office of the Undersecretary of the Navy, Division of Civilian Personnel, *Factor Analysis and the Analysis of Variables.*

The organization is a purely informal one, with no set dues or officers. A full discussion hour is followed by a social period. In addition to the boosting of one another in our academic and professional interests, a general goal of the colloquium may be said to be the development of mutual appreciations in overlapping areas of investigation, especially in the field of psychosomatics.

HERMON W. MARTIN,
Professor of Psychology.

Dr. J. H. Howey of the Department of Physics, and Dr. W. M. Spicer of the Department of Chemistry of Georgia Tech, have recently made tours of Northern research laboratories with the view of obtaining ideas for improving and extending the work at Tech. Dr. Howey visited Columbia, Princeton, the RCA laboratories, and the Murry Hill laboratories of the Bell Telephone Company, while Dr. Spicer visited Hercules Powder Company, DuPont, Columbia, Brooklyn Polytechnic Institute, M. I. T., Harvard, Northwestern, Chicago, Ohio State, and Battelle Memorial Institute.

The Chemistry Department of Georgia Tech has recently obtained equipment to complete its spectrographic laboratory. The new items include a large grating spectrograph and a densitometer to make possible quantitative analyses.

Recent publications from the Georgia Tech Chemistry Department include:

The Synthesis of Quinolines by the Pfitzinger Reaction. J. A. Knight Jr., H. K. Porter, and Paul K. Calaway. J. Am. Chem. Soc. *66* 1893 (1944).

The Use of Sodium Methoxide in the Claisen Reaction. E. Earl Royals. J. Am. Chem. Soc. *67* 1508 (1945).

The Cyclization of Pseudoionone by Acidic Reagents. E. Earl Royals. Submitted to Journal American Chemical Society.

A Demonstration of Thermal Diffusion. By W. M. Spicer, to appear soon in Journal Chemical Education.

W. M. SPICER.

An investigation of the psychological effects of war upon young children has been completed by Dr. Florene M. Young, Department of Psychology, University

of Georgia. The study covered the period between September 1942 and July 1945, and involved 120 subjects of three to seven years of age. The most frequent war-connected effect occurring in marked degree was increased difficulty with discipline, and this was a problem with only 17% of the children. Serious increases in irritability, anger manifestations, and nervous habits were found in approximately ten per cent of the cases.

A detailed report of the study has been accepted for publication by the American Journal of Orthopsychiatry.

A Junior Garceau electro-encephalograph has been added to the equipment of the Psychology Laboratory of the University of Georgia. It will be used for clinical cases and also for research being carried on by A. S. Edwards.

Ataxiametric work is also being continued with special interest in the relation of the movement of the various parts of the body and further analysis of arm, hand, and finger movements. A Master's thesis has been completed by Miss Fay Jones on amounts of finger tremor in children age 3 to 8.

UNIVERSITY OF GEORGIA CLINIC

Night meetings of the University of Georgia Clinic are being resumed after having been discontinued during the war. At these meetings Psychologists, Psychiatrists, and specialists in other fields are invited to speak to students and any others who are interested, and to have informal discussions afterwards. These meetings have been carried on for many years for the special purpose of educating students and through them as many as possible in the State of Georgia on the subject of mental hygiene, mental adjustments, mental disorders and diseases. The first night meeting of this college session considered some theories of drug addiction and the address was given by Dr. W. T. Sumerford, the new Dean of the School of Pharmacy of the University of Georgia.

The Georgia Mineral Society on October 25th gave a supper at the Atlanta Woman's Club in honor of Dr. William B. Pitts, a member of the California Academy of Science.

Dr. Pitts has given over his entire time to the making of thin sections of minerals mounted on a 2x2 plate for projection purposes and exhibited to the Society after the dinner a number of the sections that he had prepared, showing a wide range of minerals with their natural color and structural form.

S. P. CRONHEIM, President,
Georgia Mineral Society.

Dr. M. S. MacDougall, of Agnes Scott College, continued work on the malaria parasite at the U. S. Public Health Laboratory, Columbia, S. C., last summer and expects to prepare a preliminary paper on Meiosis in the Male Gamete of Plasmodium in the near future.

Dr. Samuel L. Meyer has recently been added to the Biology Staff of Emory University as Associate Professor of Biology.

Dr. John T. Manter, of the Department of Anatomy, Loyola University School of Medicine, Chicago, has been appointed Assistant Professor of Anatomy in the University of Georgia School of Medicine and will report for duty January 1st.

Dr. Hervey M. Cleckley, Professor of Psychiatry, as Secretary of the Section on Psychiatry of the Southern Medical Association, attended the annual meeting of the Association in Cincinnati on November 12th and 13th.

Dr. G. Lombard Kelly, Dean, University of Georgia School of Medicine, returned November 2nd from the annual meeting of the Association of American Medical Colleges, which was held in Pittsburgh. Dr. Kelly reported that the medical schools voted to abandon the accelerated program at the earliest possible moment. This means that practically all of the schools will have a summer vacation in 1946, which will be the first time since 1941. Interneships will be extended from nine to twelve months, so that the new interneship year will be from July 1st to July 1st. The next three senior classes in the University School of Medicine will graduate in March. In 1949 the graduating class will finish in June and deceleration will have been completed.

Dr. Auley A. McAuley is now head of the biology department at Wesleyan. Dr. McAuley comes to Wesleyan from Hamline where he was instructor in zoology. His field of research is histology.

Miss Alice Bicknell, assistant professor of botany at Wesleyan spent three months this summer at the Highlands Biological Laboratory working on algae and on the life history of the table mountain pine.

Miss Thelma Howell, associate professor of biology at Wesleyan, compiled the material for "A Preliminary Check-List of the Birds of the Highlands Region," issued in August as Publication No. 5 by the Highlands Museum and Biological Laboratory, Highlands, North Carolina. Miss Howell is treasurer and assistant director of the Highlands Biological Laboratory and a trustee of the Corporation.

Dr. Josiah Crudup, formerly Professor of Physics at Mercer University, has been made President of Brenau College.

Dr. S. M. Christian spent the past summer doing research in the laboratories of the Radio Corporation of America, at Princeton, New Jersey.

Plans for the new Science Hall of Agnes Scott College are in the stage of blueprints, and it is hoped that it may be possible to begin construction in the spring of 1946.

NATIONAL SCIENCE TEACHERS ASSOCIATION OF THE UNITED STATES

It is the time of the year for old members of N. S. T. A. to renew their memberships and for new members to make application for membership. Membership runs through October each year.

Application can be made for membership by sending one dollar with your name, address, school, subjects taught and stating whether your application is a new one or a renewal. If a

renewal is made be sure to call attention to a change in address. This information should be sent either to one of the state directors: Alvin L. McLendon, Jr., Statesboro High School, Statesboro, Georgia, or to Mrs. Myrtie O'Steen Baker, 956 Rose Circle, S. W., Atlanta, Georgia, or it should be sent directly to Mr. Norman R. D. Jones, 5073a Mardel, St. Louis 9, Missouri. Mr. Jones is one of the Vice-Presidents of the Association. The regular application for membership will be furnished to any person requesting one from Mr. McLendon at Statesboro.

The National Science Teachers Association has had introduced legislation known as the "High School Science Education Act of 1945," Senate Bill—S. 1316. Other bills are being prepared to meet the needs and requirements of the college and graduate level. Many worthy students will be lost to "Science" unless adequate opportunities for early development are offered. Bill S. 1316 has been written in an attempt to partially meet this need. It is hoped that S. 1316 will do for Science what the Smith-Hughes Act of 1917 has done for Agriculture and Home Economics. The bill has been referred to the Senate Committee on "Education and Labor" for study.

The time for science teachers all over the country to act is NOW. Join the N. S. T. A. and give the organization your support. Earnest letters to our senators and to James E. Murray, Montana, Chairman of the Education and Labor Committee, should help a great deal now.

The National Science Teachers Association is an Associate of the American Association for the Advancement of Science and is a department of the National Education Association of the United States. It is the one national organization for all science teachers interested in the teaching of science.

SCHOOL OF HOME ECONOMICS, UNIVERSITY OF GEORGIA

Dr. Maude Pye Hood completed the doctorate in August, 1944, at Iowa State College with major research in Foods. She has now initiated research here in cotton seed flour and in frozen foods.

Miss Alice Stubbs has been added to staff. She has had work at Universities of Florida and Texas and has master's degree from Columbia University. She came here directly from Syracuse University where she served as a dietician.

Miss Faye Jones with bachelor and master degrees from this Institution is a new addition to the Nursery School.

NEWS ITEMS FROM COLLEGE OF AGRICULTURE, UNIVERSITY OF GEORGIA

R. H. Driftmier, Head of the Department of Agricultural Engineering, was President of the American Society of Agricultural Engineers for the school year 1944-1945.

Dr. J. W. Kelly, Poultry De-

partment, has returned to the College after serving as teacher and research worker at Iowa State College of Ames.

A soil testing laboratory was established in the Agronomy Department last year with Mr. Joel Giddings as Director.

Dr. T. J. Jones returned to the College in September after spending one year working toward the doctorate at the University of Illinois.

Dr. C. C. Murray completed his doctorate at Cornell University, Department of Plant Breeding, this fall. He is at present in the Extension Service but will return to the Agronomy Department this coming January.

INITIATION OF NEW RESEARCH

In Agricultural Engineering Department—research in Food Processing Plant Equipment—cooperative with Tennessee Valley Authority.

In Horticultural Department—an extensive small fruit trial has been set up this past summer.

In Plant Pathology, Horticulture and Agricultural Engineering there is a cooperative project in sweet potato storage,—studying the relationship between suberization and cork cambium formation under different variables and infection by secondary organisms.

J. H. M.

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